

# MULTIPLE-SOURCE ARRAYS FOR CONFOCAL AND NEAR-FIELD MICROSCOPY

## Abstract of the Invention

5 A multiple-source array for illuminating an object including: a source of electromagnetic radiation having a wavelength  $\lambda$  in vacuum; and a reflective mask positioned to receive the electromagnetic radiation, the reflective mask comprising an array of spatially separated apertures, wherein each aperture comprises a dielectric material defining a waveguide having transverse dimensions sufficient to support one or 10 more guided propagating modes of the electromagnetic radiation extending through the mask, each aperture configured to radiate a portion of the electromagnetic radiation to the object.

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